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EXAMINER	
MAKI, STEVEN D	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/803,901	KAISER ET AL.	
	Examiner	Art Unit	
	Steven D. Maki	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *020906*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *012606*.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1) The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2) Claims 1-22, 24, 29 and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to claims 1, 3, 24 and 29, the subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention is the specified ratio Y/X of "between approximately 1 - (D_R / 100) x 1.5 and approximately 1 - (D_R / 100) x 5" (claim 1, claim 24, claim 29); and the specified ratio Y/X of "approximately 1 - (D_R / 100) x 3.3" (claim 3).

The formula for the ratio Y/X is found in the original abstract, the original claims and the original specification. See lines 10-11 of the original abstract, original claims 1, 3, 24 and 29 and paragraphs 8, 19, 20, 30 and 32 of the original specification. In the amendment filed 2-2-06, all occurrences of "D_R - 100" in the original disclosure have been changed to --D_R / 100--. This change does not constitute new matter in view of (1) the incorporation by reference of the priority document in paragraph 1 of the original disclosure and (2) the description of "D_R - 100" and "D_R / 100" in the priority document. See claim 1 of priority document.

Original claims 1, 3, 24 and 29 describe the width Y as at least partially encompassing the two shoulder block rows and the width X as being generally defined by axial outer edges of the pair of center block rows. **The width Y is therefore greater than width X. Also, see figure 2, which illustrates Y > X.**

As examples of D_R, the specification mentions 14 inches, 15 inches, 16 inches and 17 inches. **When D_R = 15 inches, the specified ratio Y/X is between approximately 1- (15 / 100) x 1.5 to approximately 1 - (15 / 100) x 5, which is the same as the ratio Y/ X = approximately 0.250 to 0.775.** With respect to the order of operations that must be followed, see for example, the order of operations described on page 37 of Intermediate Algebra. **The ratio Y/ X being 0.250 to 0.775 is inconsistent with the requirement of Y > X. Accordingly, the claimed invention defined using the specified ratio Y/X is not adequately described and enabled.**

3) The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Incorporation of "each of the center, the first and the second circumferential grooves having groove edges such that a plane which is perpendicular to the axis of rotation of the tire is located between the groove edges without intersecting the groove edges" from claims 1, 23 and 25 into the specification.

4) Claims 1-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claims 1, 22, 23 and 25, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is the subject matter of:

> "each diagonal groove being a swept groove and/or a continuously curved groove that extends from the center circumferential groove to a respective tire edge, each diagonal groove running essentially continuously up to and beyond the respective tire edge, and each diagonal groove passing through one of the center block rows and one of the shoulder block rows, whereby the diagonal grooves define the blocks in the circumferential direction" (emphasis added, claim 1)

and

> "the blocks being defined by continuously curved diagonal grooves that extend from the center circumferential groove to a respective tire edge, each continuously curved diagonal groove running essentially continuously up to and beyond the respective tire edge, whereby left side continuously curved diagonal grooves pass through the left side inner block row and the left side shoulder block row and whereby right side continuously curved diagonal grooves pass through the right side inner block row and the right side shoulder block row" (emphasis added / claims 23, 25),

and

"each diagonal groove is both a continuously curved groove and a swept-back groove" (emphasis added, claim 22).

There is no explicit basis for the above noted language in the original disclosure. The expression "continuously curved" has no explicit basis in the original disclosure. The term "curved" in not found in the original disclosure. The original disclosure describes "tread rubber edge" instead of "tire edge". Is the "tire edge" at the bead portion of the tire, the maximum section width of the tire or some other location? The original disclosure illustrates a "shaded region" between diagonal grooves 12 and the circumferential groove 6. The original disclosure illustrates a "shaded region" between diagonal grooves 13 and the circumferential groove. Since these shaded regions are not described in the original disclosure, it is not seen how the original disclosure supports the subject matter of the diagonal grooves extending "from" the center circumferential groove.

In claims 19-21 the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is the subject matter of the first and second angles of the fine indents being with respect to "a radial plane of the tire". The original disclosure describes the angles as being with respect to the circumferential direction instead of the radial direction. See paragraphs 16 and 27 of the original disclosure.

5) The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6) Claims 1-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1, 3, 24 and 29, it is unclear what units (inches?) are required to be used for D_R in the formula, and as such, the scope of the claimed ratio is unclear.

In claims 1, 23 and 25, the description of "continuously curved" and "running essentially continuously" render the scope of claims 1, 23 and 25 unclear.

7) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Colombo et al

9) **Claims 1-6, 14, 18-19 and 22-32 are rejected under 35 U.S.C. 102(a, b) as being anticipated by Colombo et al.**

Colombo et al discloses a pneumatic radial winter tire having three circumferential grooves 15, 16, 17, diagonal grooves 22, 23, 24, 25, two shoulder block rows, two center block rows, and sipes 40, 41 ("fine indents"). See figure 2. The ratio Lc/W is less than 0.45. Colombo et al's pneumatic radial winter tire having a size such as 195/65R15 inherently has a rubber tread.

With respect to the claimed diagonal grooves, "each diagonal groove being a swept groove and/or a continuously curved groove that extends from the center circumferential groove to a respective tire edge, each diagonal groove running essentially continuously up to and beyond the respective tire edge, and each diagonal groove passing through one of the center block rows and one of the shoulder block rows, whereby the diagonal grooves define the blocks in the circumferential direction" (emphasis added, claim 1) and "the blocks being defined by continuously curved diagonal grooves that extend from the center circumferential groove to a respective tire edge, each continuously curved diagonal groove running essentially continuously up to and beyond the respective tire edge, whereby left side continuously curved diagonal grooves pass through the left side inner block row and the left side shoulder block row and whereby right side continuously curved diagonal grooves pass through the right side inner block row and the right side shoulder block row" (emphasis added / claims 23, 25), and "each diagonal groove is both a continuously curved groove and a swept-back groove" (emphasis added, claim 22) is interpreted to read on the diagonal grooves 22, 23, 24, 25 of Colombo et al wherein each of Colombo's diagonal grooves runs

essentially continuously and has at least one curved edge along the entire length thereof.

10) **Claims 1-6, 14 and 17-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colombo et al and optionally in view of Graas et al.**

Colombo et al is considered to anticipate claims 1, 3, 24 and 29. In any event: It would have been obvious to one of ordinary skill in the art to provide the width of the center block rows of Columbo et al's pneumatic winter tire for a rim such as 15 inches such that the claimed ratio is satisfied in view of (1) Colombo et al's teaching to provide the two center block rows of a winter tire with a width Lc being less than 45% of the width W and optionally (2) Graas et al's suggestion to provide the center area comprising two center block rows of a winter tire with a width of 40-50% of the ground contacting tread width. Graas et al discloses a winter tire having a tread comprising three circumferential grooves, four rows of blocks, diagonal grooves and sipes. See figure 3. The central area has a width of RW2 + RW3 wherein RW2, RW3 may each be equal to 20-25%. See col. 3 lines 8-16. The tire may have a size such as 175/70R13, RW2 = 29 mm and a ground contacting tread width of 130 mm. See col. 5 lines 65-68. In this example, RW2 = 22.3% of the ground contacting tread width TW. The center area therefore has a width of 44.6% of the ground contacting width. Hence, Graas discloses an example tire for a 13 inch diameter rim having a central area width of 44.6% of the ground contacting tread width. Graas teaches that the tread portion of a pneumatic tire generally comprises a plurality of grooves defining ground engaging rubber elements.

As to rubber tread (claims 1, 23 and 25), Colombo et al's pneumatic radial winter tire has a size such as 195/65R15. In any event: it would have been obvious to one of ordinary skill in the art to form Colombo et al's pneumatic tire such that the tread is made of rubber and thereby defines a "tread rubber profile" since it is taken as well known / conventional in the tire tread art to form a pneumatic tire having a tread made of rubber.

As to claim 2, Colombo et al's tire is a winter tire.

As to claims 4-6, Colombo et al teaches a tire having a size such as 195/65R15 (tire for a 15 inch rim).

As to claim 14, note center circumferential groove 15.

As to claims 17-21, it would have been obvious to orient Colombo et al's sipes (fine indents) as set forth in claims 17-21 since Colombo et al teaches orienting the center sipes at an angle of 0-30 degrees with respect to the axial direction (60-90 degrees with respect to the circumferential direction) and orienting the shoulder sipes at an angle of 0-45 degrees with respect to the axial direction (45-90 degrees with respect to the circumferential direction).

Claims 19-21 are considered to contain new matter. See 112 first paragraph rejections above. In any event: It would have been obvious to one of ordinary skill in the art to incline Colombo et al's sipes at 5-15 degrees (e.g. 10 degrees) with respect to the radial plane since it is taken as well known / conventional per se in the tire tread art to incline sipes at an angle of 0-45 degrees with respect to the radial plane to improve traction during breaking / acceleration.

As to claim 22, Colombo et al's tread can be directional and the grooves include curved edges as can be seen in figure 2.

As to claims 23-24, note center circumferential groove 15.

As to claims 25-32, it would have been obvious to one of ordinary skill in the art to provide Colombo et al's grooves such that the center circumferential groove 15 is narrower than the left, right circumferential grooves 16, 17 (claim 25) / the transverse grooves (diagonal grooves) have a width less than either of the center circumferential groove and the left and right circumferential grooves (claim 26) since Colombo et al teaches providing the *center circumferential groove* with a width of 4 mm to 6 mm, providing the *left, right circumferential grooves* with a width of 4 mm to 8 mm and providing the *transverse grooves* with a width of 2 mm to 5 mm (page 9).

11) **Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colombo et al and optionally in view of Graas et al as applied above and further in view of Europe 600 (EP 775600).**

As to claims 7-9, it would have been obvious to one of ordinary skill in the art to provide Colombo et al's center sipes with one of a stepped configuration and a saw-toothed configuration since Europe 600 suggests using a saw toothed configuration for incisions (sipes / fine indents) in a tread of a winter tire to improve brake behavior.

12) **Claims 10-12 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colombo et al and optionally in view of Graas et al as applied above and further in view of German 156 (DE 19705156).**

As to claims 10-12, it would have been obvious to one of ordinary skill in the art to provide Colombo et al's shoulder sipes with a sinusoidal configuration as claimed since German 156, also directed to a winter tire having a directional tread comprising shoulder blocks and center blocks, suggests providing the fine cuts (sipes / indents) in the blocks with a wavy configuration (page 2 of machine translation). Also, note that Colombo et al's shoulder sipes have different lengths.

As to claims 17-21, it would have been obvious to orient Colombo et al's sipes (fine indents) as set forth in clams 17-21 since (1) Colombo et al teaches orienting the *center sipes* at an angle of 0-30 degrees with respect to the axial direction (60-90 degrees with respect to the circumferential direction) and orienting the *shoulder sipes* at an angle of 0-45 degrees with respect to the axial direction (45-90 degrees with respect to the circumferential direction) and (2) German 156 suggests orienting center fine cuts (center sipes / fine indents) at an angle of 55 to 85 degrees (angle delta of 95-125 degrees) and orienting shoulder finer cuts (shoulder sipes / fine indents) at an angle corresponding to 75-85 degrees - the illustrated angle for the shoulder sipes being 80 degrees and the illustrated angle for the center sipes being 85 degrees.

Claims 19-21 are considered to contain new matter. See 112 first paragraph rejections above. In any event: It would have been obvious to one of ordinary skill in the art to incline Colombo et al's sipes at 5-15 degrees (e.g. 10 degrees) with respect to the radial plane since it is taken as well known / conventional per se in the tire tread art to incline sipes at an angle of 0-45 degrees with respect to the radial plane to improve traction during breaking / acceleration.

13) **Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Colombo et al and optionally in view of Graas et al as applied above and further in view of Europe 577.**

As to claim 13, it would have been obvious to one of ordinary skill in the art to provide the shoulder sipes (fine indents) with a narrower width than the width of the center sipes (center fine indents) since Europe 577, also directed to a winter tire, suggests providing incisions (sipes / fine indents) in shoulder regions with a smaller width than the incisions (sipes / fine indents) in the central region to reduce softening in the shoulder regions and thereby equalize wear and improve ground adhesion.

Japan 907

14) **Claims 1-8, 14, 17-18, 22-25 and 27-32 are rejected under 35 U.S.C. 102(a, b) as being anticipated by Japan 907 (JP 2003-80907).**

Japan 907 discloses a pneumatic radial tire for use on snow having three circumferential grooves 2, 1, 2, diagonal grooves 3, two shoulder block rows, two center block rows, and sipes ("fine indents"). See figure 1. Japan 907's pneumatic radial tire has a size such as 195/65R15 and therefore inherently has a rubber tread.

With respect to the claimed diagonal grooves, "each diagonal groove being a swept groove and/or a continuously curved groove that extends from the center circumferential groove to a respective tire edge, each diagonal groove running essentially continuously up to and beyond the respective tire edge, and each diagonal groove passing through one of the center block rows and one of the shoulder block rows, whereby the diagonal grooves define the blocks in the circumferential direction"

(emphasis added, claim 1) and "the blocks being defined by continuously curved diagonal grooves that extend from the center circumferential groove to a respective tire edge, each continuously curved diagonal groove running essentially continuously up to and beyond the respective tire edge, whereby left side continuously curved diagonal grooves pass through the left side inner block row and the left side shoulder block row and whereby right side continuously curved diagonal grooves pass through the right side inner block row and the right side shoulder block row" (emphasis added / claims 23, 25), and "each diagonal groove is both a continuously curved groove and a swept-back groove" (emphasis added, claim 22) is interpreted to read on the curved diagonal grooves 3 of Japan 907.

15) **Claims 1-8, 14, 17-25 and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 907 and optionally in view of Graas et al.**

Japan 907 is considered to anticipate claim 1. In any event: As to claims 1, 3, 23, 24, 25 and 29, it would have been obvious to one of ordinary skill in the art to provide the width of the center block rows of Japan 907's pneumatic tire such that the claimed ratio for a rim such as 15 inches is satisfied in view of (1) Japan 907's teaching to provide the tire for use on snow with three circumferential grooves, a pair of shoulder block rows and a pair of center / inner block rows and optionally (2) Graas et al's suggestion to provide the center area comprising two center block rows of a winter tire with a width of 40-50% of the ground contacting tread width. Graas et al discloses a winter tire having a tread comprising three circumferential grooves, four rows of blocks, diagonal grooves and sipes. See figure 3. The central area has a width of RW2 + RW3

wherein RW2, RW3 may each be equal to 20-25%. See col. 3 lines 8-16. The tire may have a size such as 175/70R13, RW2 = 29 mm and a ground contacting tread width of 130 mm. See col. 5 lines 65-68. In this example, RW2 = 22.3% of the ground contacting tread width TW. The center area therefore has a width of 44.6% of the ground contacting width. Hence, Graas discloses an example tire for a 13 inch diameter rim having a central area width of 44.6% of the ground contacting tread width. Graas teaches that the tread portion of a pneumatic tire generally comprises a plurality of grooves defining ground engaging rubber elements.

As to rubber tread (claims 1, 23, 25), Japan 907's pneumatic radial tire has a size such as 195/65R15. In any event: it would have been obvious to one of ordinary skill in the art to form Japan 907's pneumatic tire such that the tread is made of rubber and thereby defines a "tread rubber profile" since it is taken as well known / conventional in the tire tread art to form a pneumatic tire having a tread made of rubber.

As to claim 2, Japan 907's tire is for snow.

As to claims 4-6, Japan 907 teaches a tire having a size such as 195/65R15 (tire for a 15 inch rim).

As to claims 7 and 8, note the zigzag sipes in Japan 907's figure 1.

As to claim 14, note center circumferential groove 1.

As to claims 17-21, it would have been obvious to orient Japan 907's sipes (fine indents) as set forth in claims 17-21 since Japan 907 shows the "zigzag" type sipes in the blocks as being oriented at about 80 degrees to the circumferential direction.

Claims 19-21 are considered to contain new matter. See 112 first paragraph rejections above. In any event: It would have been obvious to one of ordinary skill in the art to incline Japan 907's sipes at 5-15 degrees (e.g. 10 degrees) with respect to the radial plane since it is taken as well known / conventional per se in the tire tread art to incline sipes at an angle of 0-45 degrees with respect to the radial plane to improve traction during breaking / acceleration.

As to claim 22, Japan 907's diagonal grooves 3 are curved and form a directional tread.

As to claims 25 and 27-32, Japan 907's center circumferential groove 1 is narrow.

16) **Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 907 and optionally in view of Graas et al as applied above and further in view of Europe 600 (EP 775600).**

As to claims 7-9, it would have been obvious to one of ordinary skill in the art to provide Japan 907's center sipes with one of a stepped configuration and a saw-toothed configuration since Europe 600 suggests using a saw toothed configuration for incisions (sipes / fine indents) in a tread of a winter tire to improve brake behavior.

17) **Claims 10-12 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 907 and optionally in view of Graas et al as applied above and further in view of German 156 (DE 19705156).**

As to claims 10-12, it would have been obvious to one of ordinary skill in the art to provide Japan 907's shoulder sipes with a sinusoidal configuration as claimed since

German 156, also directed to a winter tire having a directional tread comprising shoulder blocks and center blocks, suggests providing the fine cuts (sipes / indents) in the blocks with a wavy configuration (page 2 of machine translation).

As to claims 17-21, it would have been obvious to orient Japan 907's sipes (fine indents) as set forth in clams 17-21 since German 156 suggests orienting center fine cuts (center sipes / fine indents) at an angle of 55 to 85 degrees (angle delta of 95-125 degrees) and orienting shoulder finer cuts (shoulder sipes / fine indents) at an angle corresponding to 75-85 degrees - the illustrated angle for the shoulder sipes being 80 degrees and the illustrated angle for the center sipes being 85 degrees.

Claims 19-21 are considered to contain new matter. See 112 first paragraph rejections above. In any event: It would have been obvious to one of ordinary skill in the art to incline Japan 907's sipes at 5-15 degrees (e.g. 10 degrees) with respect to the radial plane since it is taken as well known / conventional per se in the tire tread art to incline sipes at an angle of 0-45 degrees with respect to the radial plane to improve traction during breaking / acceleration.

18) **Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 907 and optionally in view of Graas et al as applied above and further in view of Europe 577.**

As to claim 13, it would have been obvious to one of ordinary skill in the art to provide the shoulder sipes (fine indents) with a narrower width than the width of the center sipes (center fine indents) since Europe 577, also directed to a winter tire, suggests providing incisions (sipes / fine indents) in shoulder regions with a smaller

width than the incisions (sipes / fine indents) in the central region to reduce softening in the shoulder regions and thereby equalize wear and improve ground adhesion.

19) **Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 907 and optionally in view of Graas et al as applied above and further in view of Japan 024 (JP 5-319024).**

As to claims 15 and 16, it would have been obvious to one of ordinary skill in the art to provide Japan 907's center groove with a width such that the blocks are spaced as claimed in view of Japan 024's suggestion to provide a center circumferential groove with a width of 125-250% of the width of cross direction grooves to raise snow performance of a pneumatic tire.

20) **Claims 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 907 and optionally in view of Graas et al as applied above and further in view of Colombo et al.**

As to claims 25-32, it would have been obvious to one of ordinary skill in the art to provide Japan 907's grooves such that the center circumferential groove is narrower than the left, right circumferential grooves (claims 25, 31 and 32) / the transverse grooves (diagonal grooves) have a width less than either of the center circumferential groove and the left and right circumferential grooves (claim 26) since Colombo et al, which like Japan 907 teaches a directional tire tread for snow having three circumferential grooves and diagonal grooves, suggests providing the *center circumferential groove* with a width of 4 mm to 6 mm, providing the *left, right*

circumferential grooves with a width of 4 mm to 8 mm and providing the *transverse grooves* with a width of 2 mm to 5 mm (page 9).

Remarks

21) Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 2-2-06 have been fully considered but they are not persuasive.

With respect to the 112 first paragraph rejection, applicant states: "Thus, in solving the equations, one first divides the rim diameter by 100 and subtracts this value from 1 - thereby producing a fraction or percentage value for the first term. Only, then is the value of this term multiplied by the second term" (page 14 of response filed 2-2-06). This argument is not persuasive since the order of operations described by applicant is inconsistent with the order of operations for mathematics as evidenced by the text book Intermediate Algebra. With respect to applicant's reference to "first term" and "second term" on page 14 of the applicant's response filed 2-2-06, the original disclosure contains no disclosure / description of "first term" and "second term".

The prior art rejections using Grass (as a primary reference), Rohweder et al and Japan 103 have been withdrawn in view of the amendment to the claims filed 2-2-06.

With respect to Colombo et al, applicant argues that figure 2 of Colombo merely shows separate non-continuous and partially curved diagonal grooves in and between the blocks 18 and 20 and in between blocks 19 and 21. This argument is not persuasive since "each diagonal groove being a swept groove and/or a continuously

curved groove that extends from the center circumferential groove to a respective tire edge, each diagonal groove running essentially continuously up to and beyond the respective tire edge, and each diagonal groove passing through one of the center block rows and one of the shoulder block rows, whereby the diagonal grooves define the blocks in the circumferential direction" (emphasis added, claim 1) and "the blocks being defined by continuously curved diagonal grooves that extend from the center circumferential groove to a respective tire edge, each continuously curved diagonal groove running essentially continuously up to and beyond the respective tire edge, whereby left side continuously curved diagonal grooves pass through the left side inner block row and the left side shoulder block row and whereby right side continuously curved diagonal grooves pass through the right side inner block row and the right side shoulder block row" (emphasis added / claims 23, 25), and "each diagonal groove is both a continuously curved groove and a swept-back groove" (emphasis added, claim 22) is interpreted to read on the diagonal grooves 22, 23, 24, 25 of Colombo et al wherein each of Colombo's diagonal grooves runs essentially continuously and has at least one curved edge along the entire length thereof. In any event: Note the new ground of rejection using Japan 907.

With respect to applicant's arguments regarding the secondary art, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

22) No claim is allowed.

23) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

24) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
April 17, 2006

Steven D. Maki 4-17-06
STEVEN D. MAKI
PRIMARY EXAMINER

REMARKS

Summary of the Amendment

Upon entry of the above amendment, the specification and claims 1, 3, 11, 14, 21-27 and 29 will have been amended. Claims 31 and 32 will have been added. Accordingly, claims 1-32 will be pending with claims 1, 23 and 25 being in independent form.

Summary of the Official Action

In the instant Office Action, the Examiner objected to claims 3, 11 and 21. Additionally, the Examiner rejected claims 1-22, 24 and 29 as failing to comply with the enablement requirement. The Examiner also rejected claims 1-20, 24 and 29 as indefinite. Finally, the Examiner rejected claims 1-30 over the art of record. By the present amendment and remarks, Applicant submits that the objections and rejections have been overcome, and respectfully requests reconsideration of the outstanding Office Action and allowance of the present application.

Interview Record OK
EM 4-14-06

Interview of January 26, 2006

Applicant appreciates the courtesy extended by Examiner Maki in the interview of January 26, 2006. In that interview, Applicant's representative discussed, among other things, that the formal objections would be overcome by correcting the noted informalities in the claims and by amending the specification and claims to correct the formulas. Applicant's representative explained in particular that the priority document (e.g., original

claim 1 and the Abstract thereof) provides clearly support for changing the portion of the equations within the brackets from (D_R – 100) to (D_R /100). Furthermore, as the recited equations having the portion (D_R – 100) do not produce a true ratio and as the correct portion (D_R /100) does produce a true ratio, one of ordinary skill in the art would recognize this typographical error and realize that the correct term is (D_R /100).

Interview Record OK JDH 4-14-06

In response, the Examiner acknowledged that Applicant had expressly incorporated by reference the priority document and that an amendment to the claims and the specification which changes the term 1-(D_R – 100) to 1-(D_R /100) in the equations could be found to be supported by the originally filed disclosure. However, the Examiner expressed concern that even if the equations were so amended, they would produce values which were less than one, i.e., 0.30 to 0.79 for a 14" rim diameter, and that this was inconsistent with the dimension Y being greater than the dimension X, as shown in the drawings.

Applicant's representative explained that the Examiner did not appreciate that the equations in fact only have two terms whose product produces the ratio values, i.e., the first term is 1 – (D_R /100) and the second term is 1.5, or 5, or 3.3. The ratio value is simply the product of these two terms. Thus, in solving the equations, one first divides the rim diameter by 100 and subtracts this value from 1 – thereby producing a fraction or percentage value for the first term. Only, then is the value of this term multiplied by the second term.

When the equations are solved in this manner, they clearly produce true ratios:

D_R	Value for 1 – (D_R /100) x 1.5	Value for 1 – (D_R /100) x 5
14"	1.29	4.3
15"	1.275	4.25

16"	1.26	4.2
17"	1.245	4.15

Applicant also pointed out that the specification and, e.g., original claims 4-6, provide clear support for the value D_R being in inches and that a ratio does not have or require units.

In response to these arguments, the Examiner agreed to consider Applicant's arguments with regard to the equations after Applicant filed a response to the instant Office Action and after Applicant properly explained how the equations are properly interpreted.

Interview Record OK JM 4-14-06

Applicant's representative also pointed out that the applied prior art failed to disclose or suggest a center circumferential groove and first and second circumferential grooves arranged on opposite sides of the center circumferential groove, whereby the first circumferential groove is arranged between one of the pair of center block rows and one of the two shoulder block rows and whereby the second circumferential groove is arranged between another of the pair of center block rows and another of the two shoulder block rows, that each of the center, the first, and the second circumferential grooves having groove edges such that a plane which is perpendicular to the axis of rotation of the tire is located between the groove edges without intersecting the groove edges, and that each diagonal groove being a swept groove and/or a continuously curved groove that extends from the center circumferential groove to a respective tire edge, each diagonal groove running essentially continuously up to and beyond the respective tire edge, and each diagonal groove passing through one of the center block rows and one of the shoulder block rows, whereby the diagonal grooves define the blocks in the circumferential direction.

Interview Record OK JM 4-14-06

It was specifically pointed out how each of these documents lacks this combination of features.

The Examiner responded by indicating that he would reconsider the rejection in view of such claim amendments upon the filing of Applicant's response.

Objections to the Claims are moot

The Examiner objected to claim 3 because it recites the term "ration" instead of "ratio". The Examiner also objected to claim 11 as being substantially duplicative of claim 10. Finally, the Examiner objected to claim 21 because it improperly broadens a claim from which it depends.

While Applicant disagrees with at least the latter assertion, Applicant has herein amended the claims in a manner which is believed to resolve each of the asserted bases of objection. In particular, claim 3 was been amended to replace the term "ration" with "ratio". Claim 11 has been amended in a manner which recites different claim scope than claim 10. Claim 21 has been amended to clarify that the range of the dependent claim is narrower than the range of the claim from which it depends.

In view of the above, Applicant requests that the Examiner reconsider and withdraw the objection to the drawings and indicate that the drawings are acceptable under the Patent Office Rules.

Traversal of the Section 112, first paragraph, Rejection

Claims 1-22, 24 and 29 were rejected under 35 U.S.C. § 112, first paragraph, as